SUBCHAPTER A : GENERAL PROVISIONS
§§336.1-336.6, 336.11, 336.12
Effective June 5, 1997

§336.1. Scope and General Provisions.

(a) Except as otherwise specifically provided, the rules in Chapter 336 of this title (relating to Radioactive Substance Rules) apply to all persons who engage in source material recovery and processing or the disposal of radioactive substances, as defined in this subchapter, and for that purpose receive, possess, use, process, transfer, or dispose of radioactive substances. However, nothing in these rules shall apply to any person to the extent that person is subject to regulation by the United States Nuclear Regulatory Commission (USNRC) or to radioactive material in the possession of federal agencies. The rules in this chapter do not apply to the disposal of radiation machines as defined in this subchapter or electronic devices which produce non-ionizing radiation.

(b) Regulation by the State of Texas of source material, byproduct material, and special nuclear material in quantities not sufficient to form a critical mass is subject to the provisions of the agreement between the State of Texas and the USNRC and to Part 150 of Title 10 Code of Federal Regulations (10 CFR Part 150) (relating to Exemptions and Continued Regulatory Authority in Agreement States and in Offshore Waters Under Section 274). (A copy of the Texas agreement, "Articles of Agreement between the United States Atomic Energy Commission and the State of Texas for Discontinuance of Certain Commission Regulatory Authority and Responsibility Within the State Pursuant to Section 274 of the Atomic Energy Act of 1954, as Amended" (Agreement), may be obtained from the UIC, Uranium and Radioactive Waste Section, MC 131, Industrial and Hazardous Waste Division, Texas Natural Resource Conservation Commission, P.O. Box 13087, Austin, Texas 78711-3087.) Under the Agreement and 10 CFR Part 150, the USNRC retains certain regulatory authorities over source material, byproduct material, and special nuclear material in the State of Texas. Persons in the State of Texas are not exempt from the regulatory requirements of the USNRC with respect to these retained authorities.

(c) No person may receive, possess, use, transfer, or dispose of radioactive material, which is subject to the rules in this chapter, in such a manner that the standards for protection against radiation prescribed in these rules are exceeded.

(d) Each person licensed by the commission under this subchapter shall confine possession and use of licensed radioactive material to the locations and purposes authorized in the license.

(e) No person may cause or allow the release of radioactive material, which is subject to the rules in this chapter, to the environment in violation of this chapter or of any rule, license, or order of the Texas Natural Resource Conservation Commission (commission).

§336.2. Definitions.

The following words and terms when used in this chapter shall have the following meanings, or as described in 30 TAC Chapter 3 of this title (relating to Definitions), unless the context clearly indicates otherwise. Additional definitions used only in a certain subchapter will be found in that subchapter.

Absorbed dose - The energy imparted by ionizing radiation per unit mass of irradiated material. The units of absorbed dose are the rad and the gray (Gy).

Accelerator-produced radioactive material - Any material made radioactive by exposing it to the radiation from a particle accelerator.

Activity - The rate of disintegration (transformation) or decay of radioactive material. The units of activity are the curie (Ci) and the becquerel (Bq).

Adult - An individual 18 or more years of age.

Agreement state - Any state with which the United States Nuclear Regulatory Commission (USNRC) or the Atomic Energy Commission has entered into an effective agreement under the Atomic Energy Act of 1954, §274b, as amended through October 24, 1992 (Pub.L. 102-486).

Airborne radioactive material - Any radioactive material dispersed in the air in the form of dusts, fumes, particulates, mists, vapors, or gases.

Airborne radioactivity area - A room, enclosure, or area in which airborne radioactive materials, composed wholly or partly of licensed material, exist in concentrations:

(A) in excess of the derived air concentrations (DACs) specified in §336.359, Appendix B, Table I, Column 1, of this title (relating to Annual Limits on Intake (ALI) and Derived Air Concentrations (DAC) of Radionuclides for Occupational Exposure; Effluent Concentrations; Concentrations for Release to Sanitary Sewerage); or

(B) to a degree that an individual present in the area without respiratory protective equipment could exceed, during the hours an individual is present in a week, an intake of 0.6% of the ALI or 12 DAC-hours.

Annual limit on intake (ALI) - The derived limit for the amount of radioactive material taken into the body of an adult worker by inhalation or ingestion in a year. ALI is the smaller value of intake of a given radionuclide in a year by the "reference man" that would result in a committed effective dose equivalent of 5 rems (0.05 sievert) or a committed dose equivalent of 50 rems (0.5 sievert) to any individual organ or tissue. ALI values for intake by ingestion and by inhalation of selected radionuclides are given in Table I, Columns 1 and 2, of §336.359, Appendix B, of this title.

As low as is reasonably achievable (ALARA) - Making every reasonable effort to maintain exposures to radiation as far below the dose limits in this chapter as is practical, consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of

improvements in relation to the state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of ionizing radiation and licensed radioactive materials in the public interest.

Background radiation - Radiation from cosmic sources; non-technologically enhanced naturally-occurring radioactive material, including radon (except as a decay product of source or special nuclear material) and global fallout as it exists in the environment from the testing of nuclear explosive devices. "Background radiation" does not include radiation from radioactive materials regulated by the commission, Texas Department of Health, USNRC, or an Agreement State.

Becquerel (Bq) - See §336.4 of this title (relating to Units of Radioactivity).

Bioassay - The determination of kinds, quantities, or concentrations, and, in some cases, the locations of radioactive material in the human body, whether by direct measurement (in vivo counting) or by analysis and evaluation of materials excreted or removed from the human body. For purposes of the rules in this chapter, "radiobioassay" is an equivalent term.

Byproduct material -

(A) A radioactive material, other than special nuclear material, that is produced in or made radioactive by exposure to radiation incident to the process of producing or using special nuclear material; and

(B) The tailings or wastes produced by or resulting from the extraction or concentration of uranium or thorium from ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes, and other tailings having similar radiological characteristics. Underground ore bodies depleted by these solution extraction processes do not constitute "byproduct material" within this definition.

CFR - Code of Federal Regulations.

Class - A classification scheme for inhaled material according to its rate of clearance from the pulmonary region of the lung. Materials are classified as D, W, or Y, which applies to a range of clearance half-times: for Class D (Days) of less than 10 days, for Class W (Weeks) from 10 to 100 days, and for Class Y (Years) of greater than 100 days. For purposes of the rules in this chapter, "lung class" and "inhalation class" are equivalent terms.

Collective dose - The sum of the individual doses received in a given period of time by a specified population from exposure to a specified source of radiation.

Committed dose equivalent ($H_{T,50}$) (CDE) - The dose equivalent to organs or tissues of reference (T) that will be received from an intake of radioactive material by an individual during the 50-year period following the intake.

Committed effective dose equivalent ($H_{E,50}$) (CEDE) - The sum of the products of the weighting factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to each of these organs or tissues.

Curie (Ci) - See §336.4 of this title.

Declared pregnant woman - A woman who has voluntarily informed her employer, in writing, of her pregnancy and the estimated date of conception.

Decommission - To remove (as a facility) safely from service and reduce residual radioactivity to a level that permits release of the property for unrestricted use and termination of license.

Deep-dose equivalent (H_d) (which applies to external whole- body exposure) - The dose equivalent at a tissue depth of 1 centimeter (1,000 milligrams/square centimeter).

Depleted uranium - The source material uranium in which the isotope uranium-235 is less than 0.711%, by weight, of the total uranium present. Depleted uranium does not include special nuclear material.

Derived air concentration (DAC) - The concentration of a given radionuclide in air which, if breathed by the "reference man" for a working year of 2,000 hours under conditions of light work (inhalation rate of 1.2 cubic meters of air/hour), results in an intake of one ALI. DAC values are given in Table I, Column 3, of §336.359, Appendix B, of this title.

Derived air concentration-hour (DAC-hour) - The product of the concentration of radioactive material in air (expressed as a fraction or multiple of the derived air concentration for each radionuclide) and the time of exposure to that radionuclide, in hours. A licensee may take 2,000 DAC-hours to represent one ALI, equivalent to a committed effective dose equivalent of 5 rems (0.05 sievert).

Dose - A generic term that means absorbed dose, dose equivalent, effective dose equivalent, committed dose equivalent, committed effective dose equivalent, total organ dose equivalent, or total effective dose equivalent. For purposes of the rules in this chapter, "radiation dose" is an equivalent term.

Dose equivalent (H_T) - The product of the absorbed dose in tissue, quality factor, and all other necessary modifying factors at the location of interest. The units of dose equivalent are the rem and sievert (Sv).

Dose limits - The permissible upper bounds of radiation doses established in accordance with the rules in this chapter. For purposes of the rules in this chapter, "limits" is an equivalent term.

Dosimetry processor - An individual or organization that processes and evaluates individual monitoring devices in order to determine the radiation dose delivered to the monitoring devices.

Effective dose equivalent (H_E) - The sum of the products of the dose equivalent to each organ or tissue (H_T) and the weighting factor (w_T) applicable to each of the body organs or tissues that are irradiated.

Embryo/fetus - The developing human organism from conception until the time of birth.

Entrance or access point - Any opening through which an individual or extremity of an individual could gain access to radiation areas or to licensed radioactive materials. This includes portals of sufficient size to permit human access, irrespective of their intended use.

Exposure - Being exposed to ionizing radiation or to radioactive material.

Exposure rate - The exposure per unit of time.

External dose - That portion of the dose equivalent received from any source of radiation outside the body.

Extremity - Hand, elbow, arm below the elbow, foot, knee, and leg below the knee. The arm above the elbow and the leg above the knee are considered part of the whole body.

Eye dose equivalent - The external dose equivalent to the lens of the eye at a tissue depth of 0.3 centimeter (300 milligrams/square centimeter).

General license - An authorization granted by an agency under its rules which is effective without the filing of an application with that agency or the issuance of a licensing document to the particular person.

Generally applicable environmental radiation standards - Standards issued by the United States Environmental Protection Agency under the authority of the Atomic Energy Act of 1954, as amended through October 4, 1996, that impose limits on radiation exposures or levels, or concentrations or quantities of radioactive material, in the general environment outside the boundaries of locations under the control of persons possessing or using radioactive material.

Gray (Gy) - See §336.3 of this title (relating to Units of Radiation Exposure and Dose).

High radiation area - An area, accessible to individuals, in which radiation levels could result in an individual receiving a dose equivalent in excess of 0.1 rem (1 millisievert) in 1 hour at 30 centimeters from any source of radiation or from any surface that the radiation penetrates.

Individual - Any human being.

Individual monitoring - The assessment of:

(A) dose equivalent by the use of individual monitoring devices; or

(B) committed effective dose equivalent by bioassay or by determination of the time-weighted air concentrations to which an individual has been exposed, that is, DAC-hours; or

(C) dose equivalent by the use of survey data.

Individual monitoring devices - Devices designed to be worn by a single individual for the assessment of dose equivalent. For purposes of the rules in this chapter, "individual monitoring equipment," "personnel dosimeter," and "dosimeter" are equivalent terms. Examples of individual monitoring devices are film badges, thermoluminescent dosimeters (TLDs), pocket ionization chambers, and personal ("lapel") air sampling devices.

Inhalation class - See "Class."

Inspection - An official examination and/or observation including, but not limited to, records, tests, surveys, and monitoring to determine compliance with the Texas Radiation Control Act (TRCA) and rules, orders, and license conditions of the commission.

Internal dose - That portion of the dose equivalent received from radioactive material taken into the body.

Land disposal facility - The land, buildings and structures, and equipment which are intended to be used for the disposal of radioactive wastes into the subsurface of the land. For purposes of this chapter, a "geologic repository" as defined in 10 CFR 60.2 as amended through October 27, 1988 (53 FedReg 43421) (relating to Definitions - high-level radioactive wastes in geologic repositories) is not considered a "land disposal facility."

License - See "Specific license."

Licensed material - Radioactive material received, possessed, used, processed, transferred, or disposed of under a license issued by the commission.

Licensee - Any person who holds a license issued by the commission in accordance with the TRCA and the rules in this chapter. For purposes of the rules in this chapter, "radioactive material licensee" is an equivalent term. Unless stated otherwise, "licensee" as used in the rules of this chapter means the holder of a "specific license."

Licensing state - Any state with rules equivalent to the Suggested State Regulations for Control of Radiation relating to, and having an effective program for, the regulatory control of naturally-occurring or accelerator-produced radioactive material (NARM) and which has been designated as such by the Conference of Radiation Control Program Directors, Inc.

Lost or missing licensed radioactive material - Licensed material whose location is unknown. This definition includes material that has been shipped but has not reached its planned destination and whose location cannot be readily traced in the transportation system.

Low-level radioactive waste - See "Radioactive waste."

Lung class - See "Class."

Major amendment -

(A) An amendment to a license issued under Subchapter F of Chapter 336 of this title (relating to Licensing of Alternative Methods of Disposal of Radioactive Material) which:

(i) authorizes a transfer of a license to another person;

(ii) authorizes enlargement of the disposal area beyond that authorized in the existing license or addition of disposal areas; or

(iii) authorizes a substantive change in the nature of the wastes to be disposed of or the method of disposal.

(B) An amendment to a license issued under Subchapter G of Chapter 336 of this title (relating to Licensing Requirements for Source Material (Uranium or Thorium) Recovery and Processing Facilities) which:

(i) authorizes a transfer of the license to another person;

(ii) authorizes enlargement of the licensed site beyond that authorized in the existing license;

(iii) authorizes a method of disposal of byproduct material, as defined in subparagraph (B) of the definition of “byproduct material” of this section which is different from that specified in the existing license or authorizes a change to substantive provisions concerning an existing disposal method;

(iv) grants an exemption from or an alternative to any specific technical requirement of Subchapter G of Chapter 336 of this title, or §§336.627-336.629 of this title (relating to Financial Assurance Requirements, Long-Term Care and Surveillance Requirements, and Land Ownership of Tailings or Waste Disposal Sites);

(v) authorizes disposal of byproduct material from others or authorizes other commercial activity not proposed in the application for the initial issuance of the license;

(vi) authorizes alternate concentration limits under §336.615(e) of this title (relating to Secondary Groundwater Protection);

(vii) approves a reclamation plan for a tailings or waste disposal site under §336.622 of this title (relating to Closure Completion Milestones and Schedule);

(viii) approves a change in the date set in the license for completion of the final radon barrier or interim milestones under §336.622 of this title; or

(ix) authorizes a portion of a uranium mill tailings impoundment to accept materials from others for disposal during the closure process or after the final radon barrier is complete under §336.622 of this title.

(C) An amendment to a license issued under Subchapter H of Chapter 336 of this title (relating to Licensing Requirements for Near-Surface Land Disposal of Radioactive Waste) which:

(i) authorizes a change in the type or concentration limits of wastes to be received;

(ii) authorizes receipt of wastes from other states not authorized in the existing license;

(iii) authorizes a change in the operator of the facility;

(iv) authorizes closure and the final closure plan for the disposal site; or

(v) transfers the license to the custodial agency.

(D) Any other amendment for which the executive director has prepared a written environmental analysis or has determined that an environmental analysis is required.

Member of the public - Any individual except when that individual is receiving an occupational dose.

Minor - An individual less than 18 years of age.

Minor amendment - Any amendment to a license issued under this chapter which is not defined as a major amendment in this section and does not have a significant impact or effect on the human environment.

Monitoring - The measurement of radiation levels, radioactive material concentrations, surface area activities, or quantities of radioactive material and the use of the results of these measurements to evaluate potential exposures and doses. For purposes of the rules in this chapter, "radiation monitoring" and "radiation protection monitoring" are equivalent terms.

Naturally-occurring or accelerator-produced radioactive material (NARM) - Any naturally-occurring or accelerator-produced radioactive material except source material or special nuclear material.

Naturally-occurring radioactive material (NORM) waste - Solid, liquid, or gaseous material or combination of materials, excluding source material, special nuclear material, and byproduct material, that:

(A) in its natural physical state spontaneously emits radiation;

(B) is discarded or unwanted; and

(C) is not exempt under rules of the Texas Department of Health adopted under Health and Safety Code, §401.106.

Near-surface disposal facility - A land disposal facility in which radioactive waste is disposed of in or within the upper 30 meters of the earth's surface.

Nonstochastic effect - A health effect, the severity of which varies with the dose and for which a threshold is believed to exist. Radiation-induced cataract formation is an example of a nonstochastic effect. For purposes of the rules in this chapter, "deterministic effect" is an equivalent term.

Occupational dose - The dose received by an individual in the course of employment in which the individual's assigned duties involve exposure to radiation and/or to radioactive material from licensed and unlicensed sources of radiation, whether in the possession of the licensee or other person. Occupational dose does not include dose received from background radiation, as a patient from medical practices, from voluntary participation in medical research programs, or as a member of the public.

Oil and gas naturally-occurring radioactive material (NORM) waste - Naturally-occurring radioactive material (NORM) waste that constitutes, is contained in, or has contaminated oil and gas waste as that term is defined in the Texas Natural Resources Code §91.1011.

Personnel monitoring equipment - See "Individual monitoring devices."

Planned special exposure - An infrequent exposure to radiation, separate from and in addition to the annual occupational dose limits.

Principal activities - Activities authorized by the license which are essential to achieving the purpose(s) for which the license is issued or amended. Storage during which no licensed material is accessed for use or disposal and activities incidental to decontamination or decommissioning are not principal activities.

Public dose - The dose received by a member of the public from exposure to radiation and/or radioactive material released by a licensee, or to any other source of radiation under the control of the licensee. It does not include occupational dose or doses received from background radiation, as a patient from medical practices, or from voluntary participation in medical research programs.

Quality factor (Q) - The modifying factor listed in Table I or II of §336.3 of this title that is used to derive dose equivalent from absorbed dose.

Quarter (Calendar quarter) - A period of time equal to one-fourth of the year observed by the licensee (approximately 13 consecutive weeks), providing that the beginning of the first quarter in a year coincides with the starting date of the year and that no day is omitted or duplicated in consecutive quarters.

Rad - See §336.3 of this title.

Radiation - Alpha particles, beta particles, gamma rays, x-rays, neutrons, high-speed electrons, high-speed protons, and other particles capable of producing ions. For purposes of the rules in this chapter, "ionizing radiation" is an equivalent term. Radiation, as used in this chapter, does not include non-ionizing radiation, such as radio- or microwaves or visible, infrared, or ultraviolet light.

Radiation and Perpetual Care Fund - A fund established in the treasury of the State of Texas for the purposes set forth in the TRCA §401.305.

Radiation area - Any area, accessible to individuals, in which radiation levels could result in an individual receiving a dose equivalent in excess of 0.005 rem (0.05 millisievert) in 1 hour at 30 centimeters from the source of radiation or from any surface that the radiation penetrates.

Radiation machine - Any device capable of producing ionizing radiation except those devices with radioactive material as the only source of radiation.

Radioactive material - A naturally-occurring or artificially-produced solid, liquid, or gas that emits radiation spontaneously.

Radioactive substance - Includes byproduct material, radioactive material, radioactive waste, source material, special nuclear material, and NORM waste, excluding oil and gas NORM waste.

Radioactive waste - Radioactive material other than byproduct material as defined in subparagraph (B) of the definition of “byproduct material” of this section, uranium ore, NORM waste, or oil and gas NORM waste, that is discarded or unwanted and is not exempt under rules of the Texas Department of Health adopted under Health and Safety Code, §401.106, or would require processing before it could have beneficial reuse. For purposes of the rules in this chapter, radioactive waste also excludes waste classified as high-level radioactive waste, transuranic waste, or spent nuclear fuel. For purposes of the rules in this chapter, radioactive waste means "low-level radioactive waste" as that term is used in 10 CFR Part 61 as amended through May 9, 1995 (60 FedReg 24552) (relating to Licensing Requirements for Land Disposal of Radioactive Waste). For purposes of the rules in this chapter, "radioactive waste" and "low-level radioactive waste" are equivalent terms. For purposes of the rules in this chapter, radioactive waste and low-level radioactive waste include accelerator-produced radioactive material.

Radioactivity - The disintegration of unstable atomic nuclei with the emission of radiation.

Radiobioassay - See "Bioassay."

Reference man - A hypothetical aggregation of human physical and physiological characteristics determined by international consensus. These characteristics may be used by researchers and public health workers to standardize results of experiments and to relate biological insult to a common base. A description of "reference man" is contained in the International Commission on Radiological Protection report, ICRP Publication 23, "Report of the Task Group on Reference Man."

Rem - See §336.3 of this title.

Respiratory protection equipment - An apparatus, such as a respirator, used to reduce an individual's intake of airborne radioactive materials. For purposes of the rules in this chapter, "respiratory protective device" is an equivalent term.

Restricted area - An area, access to which is limited by the licensee for the purpose of protecting individuals against undue risks from exposure to radiation and radioactive materials. Restricted

area does not include areas used as residential quarters, but separate rooms in a residential building may be set apart as a restricted area.

Roentgen (R) - See §336.3 of this title.

Sanitary sewerage - A system of public sewers for carrying off waste water and refuse, but excluding sewage treatment facilities, septic tanks, and leach fields owned or operated by the licensee.

Sealed source - Radioactive material that is permanently bonded or fixed in a capsule or matrix designed to prevent release and dispersal of the radioactive material under the most severe conditions that are likely to be encountered in normal use and handling.

Shallow-dose equivalent (H_s) (which applies to the external exposure of the skin or an extremity) - The dose equivalent at a tissue depth of 0.007 centimeter (7 milligrams/square centimeter) averaged over an area of 1 square centimeter.

SI - The abbreviation for the International System of Units.

Sievert (Sv) - See §336.3 of this title.

Site boundary - That line beyond which the land or property is not owned, leased, or otherwise controlled by the licensee.

Source material -

(A) Uranium or thorium, or any combination thereof, in any physical or chemical form; or

(B) Ores that contain, by weight, 0.05% or more of uranium, thorium, or any combination thereof. Source material does not include special nuclear material.

Source material recovery - Uranium or thorium recovery as defined in this section.

Special form radioactive material - Radioactive material which is either a single solid piece or is contained in a sealed capsule that can be opened only by destroying the capsule and which has at least one dimension not less than 5 millimeters and which satisfies the test requirements of 10 CFR 71.75 as amended through September 28, 1995 (60 FedReg 50264) (relating to Transportation of License Material).

Special nuclear material -

(A) Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material that the USNRC, under the provisions of the Atomic Energy Act of 1954, §51, as amended through November 2, 1994 (Pub.L. 103-437), determines to be special nuclear material, but does not include source material; or

(B) Any material artificially enriched by any of the foregoing, but does not include source material.

Special nuclear material in quantities not sufficient to form a critical mass - uranium enriched in the isotope 235 in quantities not exceeding 350 grams of contained uranium-235; uranium-233 in quantities not exceeding 200 grams; plutonium in quantities not exceeding 200 grams; or any combination of these in accordance with the following formula: For each kind of special nuclear material, determine the ratio between the quantity of that special nuclear material and the quantity specified above for the same kind of special nuclear material. The sum of such ratios for all of the kinds of special nuclear material in combination shall not exceed 1. For example, the following quantities in combination would not exceed the limitation: (175 grams contained U-235/350 grams) + (50 grams U-233/200 grams) + (50 grams Pu/200 grams) = 1.

Specific license - A licensing document issued by an agency upon an application filed under its rules. For purposes of the rules in this chapter, "radioactive material license" is an equivalent term. Unless stated otherwise, "license" as used in this chapter means a "specific license."

State - The State of Texas.

Stochastic effect - A health effect that occurs randomly and for which the probability of the effect occurring, rather than its severity, is assumed to be a linear function of dose without threshold. Hereditary effects and cancer incidence are examples of stochastic effects. For purposes of the rules in this chapter, "probabilistic effect" is an equivalent term.

Survey - An evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, and/or presence of radioactive materials or other sources of radiation. When appropriate, this evaluation includes, but is not limited to, physical examination of the location of radioactive material and measurements or calculations of levels of radiation or concentrations or quantities of radioactive material present.

Termination - As applied to a license, a release by the commission of the obligations and authorizations of the licensee under the terms of the license. It does not relieve a person of duties and responsibilities imposed by law.

Thorium recovery - Any activity that results in the production of byproduct material as defined in subparagraph (B) of the definition of "byproduct material" of this section, excluding other tailings having similar radiological characteristics. As used in this definition, "thorium recovery" has the same meaning as "uranium milling" in 10 CFR 40.4 as amended through July 15, 1994 (59 FedReg 36035) (relating to Definitions).

Total effective dose equivalent (TEDE) - The sum of the deep-dose equivalent for external exposures and the committed effective dose equivalent for internal exposures.

Total organ dose equivalent (TODE) - The sum of the deep-dose equivalent and the committed dose equivalent to the organ receiving the highest dose as described in §336.346(a)(6) of this title (relating to Records of Individual Monitoring Results).

Type A quantity (for packaging) - A quantity of radioactive material, the aggregate radioactivity of which does not exceed A_1 for special form radioactive material or A_2 for normal form radioactive material, where A_1 and A_2 are given in or may be determined by procedures in Appendix A to 10 CFR Part 71 as amended through September 28, 1995 (60 FedReg 50264) (relating to Packaging and Transportation of Radioactive Material).

Type B quantity (for packaging) - A quantity of radioactive material greater than a Type A quantity.

Unrefined and unprocessed ore - Ore in its natural form before any processing, such as grinding, roasting, beneficiating, or refining.

Unrestricted area - Any area that is not a restricted area.

Uranium recovery - Any activity that results in the production of byproduct material as defined in subparagraph (B) of the definition of "byproduct material" of this section, excluding other tailings having similar radiological characteristics. As used in this definition, "uranium recovery" has the same meaning as "uranium milling" in 10 CFR 40.4 as amended through July 15, 1994 (59 FedReg 36035) (relating to Definitions).

Very high radiation area - An area, accessible to individuals, in which radiation levels could result in an individual receiving an absorbed dose in excess of 500 rads (5 grays) in 1 hour at 1 meter from a source of radiation or from any surface that the radiation penetrates. (At very high doses received at high dose rates, units of absorbed dose (rad and gray) are appropriate, rather than units of dose equivalent (rem and sievert).)

Violation - An infringement of any provision of the TRCA or of any rule, order, or license condition of the commission issued under the TRCA or this chapter.

Week - Seven consecutive days starting on Sunday.

Weighting factor (w_T) for an organ or tissue (T) - The proportion of the risk of stochastic effects resulting from irradiation of that organ or tissue to the total risk of stochastic effects when the whole body is irradiated uniformly. For calculating the effective dose equivalent, the values of w_T are: Figure 1: 30 TAC §336.2

Organ Dose Weighting Factors

Organ or Tissue	W_T
Gonads	0.25
Breast	0.15
Red bone marrow	0.12
Lung	0.12
Thyroid	0.03
Bone surfaces	0.03

Remainder	0.30[1]
Whole body	1.00[2]

l. The value 0.30 results from 0.06 for each of five remainder organs, excluding the skin and the lens of the eye, that receive the highest doses.

2. For the purpose of weighting the external whole body dose (for adding it to the internal dose) a single weighting factor, $w_T = 1.0$, has been specified. The use of other weighting factors for external exposure will be approved on a case-by-case basis until such time as specific guidance is issued.

Whole body - For purposes of external exposure, head, trunk including male gonads, arms above the elbow, or legs above the knee.

Worker - An individual engaged in activities under a license issued by the commission and controlled by a licensee, but does not include the licensee.

Working level (WL) - Any combination of short-lived radon daughters in 1 liter of air that will result in the ultimate emission of 1.3×10^5 million electron volts (MeV) of potential alpha particle energy. The short-lived radon daughters are: for radon-222: polonium-218, lead-214, bismuth-214, and polonium-214; and for radon-220: polonium-216, lead-212, bismuth-212, and polonium-212.

Working level month (WLM) - An exposure to 1 working level for 170 hours (2,000 working hours per year divided by 12 months per year is approximately equal to 170 hours per month).

Year - The period of time beginning in January used to determine compliance with the provisions of the rules in this chapter. The licensee may change the starting date of the year used to determine compliance by the licensee provided that the change is made at the beginning of the year and that no day is omitted or duplicated in consecutive years.

Adopted May 14, 1997 Effective June 5, 1997

§336.3. Units of Radiation Exposure and Dose.

(a) As used in the rules in this chapter, the International System of Units (SI) unit of exposure is the coulomb/kilogram (C/kg) of air. The special unit of exposure is the roentgen. One roentgen equals 2.58×10^{-4} coulomb/kilogram of air.

(b) As used in the rules in this chapter, the units of radiation dose are as follows:

(1) Rad is the special unit of absorbed dose. One rad is equal to an absorbed dose of 100 ergs/gram or 0.01 joule/kilogram (0.01 gray).

(2) Gray (Gy) is the SI unit of absorbed dose. One gray is equal to an absorbed dose of 1 joule/kilogram (100 rads).

(3) Rem is the special unit of any of the quantities expressed as dose equivalent. The dose equivalent in rem is equal to the absorbed dose in rad multiplied by the quality factor (1 rem = 0.01 sievert).

(4) Sievert (Sv) is the SI unit of any of the quantities expressed as dose equivalent. The dose equivalent in sievert is equal to the absorbed dose in gray multiplied by the quality factor (1 sievert = 100 rems).

(c) As used in the rules in this chapter, the quality factors for converting absorbed dose to dose equivalent are shown in Table I. Figure 1: 30 TAC §336.3(c)

Table I

Quality Factors and Absorbed Dose Equivalencies

Type of Radiation	Quality Factor (Q)	Absorbed Dose Equal to a Unit Dose Equivalent[1]
Gamma, beta, or x-ray	1	1
Alpha particles, multiple-charged particles, fission fragments, and heavy particles of unknown charge	20	0.05
Neutrons of unknown energy	10	0.1
High-energy protons	10	0.1

1. Absorbed dose in rad equal to 1 rem or the absorbed dose in gray equal to 1 sievert.

(d) If it is more convenient to measure the neutron fluence rate than to determine the neutron dose equivalent rate in rem/hour or sievert/hour, as provided in subsection (c) of this section, 1 rem (0.01 sievert) of neutron radiation of unknown energies may, for purposes of the rules in this chapter, be assumed to result from a total fluence of 25 million neutrons/square centimeter incident upon the body. If sufficient information exists to estimate the approximate energy distribution of the neutrons, the licensee may use the fluence rate per unit dose equivalent or the appropriate Q value from Table II to convert a measured tissue dose in rad (gray) to dose equivalent in rem (sievert). Figure 2: 30 TAC §336.3(d)

Table II

Mean Quality Factors, Q, and Fluence per Unit Dose Equivalent for Monoenergetic Neutrons

	Neutron Energy (MeV)	Quality Factor[1] (Q)	Fluence per Unit Dose Equivalent[2] (neutrons cm^{-2} rem^{-1})	Fluence per Unit Dose Equivalent[2] (neutrons cm^{-2} Sv^{-1})
(thermal)...	2.5×10^{-8}	2	980×10^{6}	980×10^{8}
	1×10^{-7}	2	980×10^{6}	980×10^{8}
	1×10^{-6}	2	810×10^{6}	810×10^{8}
	1×10^{-5}	2	810×10^{6}	810×10^{8}
	1×10^{-4}	2	840×10^{6}	840×10^{8}
	1×10^{-3}	2	980×10^{6}	980×10^{8}
	1×10^{-2}	2.5	$1{,}010 \times 10^{6}$	$1{,}010 \times 10^{8}$
	1×10^{-1}	7.5	170×10^{6}	170×10^{8}
	5×10^{-1}	11	39×10^{6}	39×10^{8}
	1	11	27×10^{6}	27×10^{8}
	2.5	9	29×10^{6}	29×10^{8}
	5	8	23×10^{6}	23×10^{8}
	7	7	24×10^{6}	24×10^{8}
	10	6.5	24×10^{6}	24×10^{8}
	14	7.5	17×10^{6}	17×10^{8}
	20	8	16×10^{6}	16×10^{8}
	40	7	14×10^{6}	14×10^{8}
	60	5.5	16×10^{6}	16×10^{8}
	1×10^{2}	4	20×10^{6}	20×10^{8}
	2×10^{2}	3.5	19×10^{6}	19×10^{8}
	3×10^{2}	3.5	16×10^{6}	16×10^{8}
	4×10^{2}	3.5	14×10^{6}	14×10^{8}

1. Value of quality factor (Q) at the point where the dose equivalent is maximum in a 30-centimeter (cm) diameter cylinder tissue-equivalent phantom.

2. Monoenergetic neutrons incident normally on a 30-cm diameter cylinder tissue-equivalent phantom.

§336.4. Units of Radioactivity.

For purposes of the rules in this chapter, activity is expressed in the special unit of curie (Ci) or in the International System of Units unit of becquerel (Bq), or its multiples, or disintegrations (transformations) per unit of time, as follows:

(1) One curie (Ci) = 3.7×10^{10} disintegrations or transformations/second (dps or tps) = 3.7×10^{10} becquerel (Bq) = 2.22×10^{12} disintegrations or transformations/minute (dpm or tpm). Commonly used submultiples of the curie are as follows. One millicurie (mCi) = 1×10^{-3} Ci = 3.7×10^{7} dps. One microcurie (microCi) = 1×10^{-6} Ci = 3.7×10^{4} dps. One nanocurie (nCi) = 1×10^{-9} Ci = 3.7×10 dps. One picocurie (pCi) = 1×10^{-12} Ci = 3.7×10^{-2} dps.

(2) One becquerel (Bq) = 1 disintegration or transformation/second (dps or tps).

Adopted May 14, 1997 Effective June 5, 1997

§336.5. Exemptions.

(a) General provision. The commission may, upon application therefor or upon its own initiative, grant those exemptions or exceptions from the requirements of the rules in this chapter as it determines are authorized by law and will not result in undue risk to public health and safety or property or the environment.

(b) Carriers. Common and contract carriers, freight forwarders, and warehousemen are exempt from commission rules in this chapter to the extent that they transport or store radioactive materials in the regular course of carriage for another person or storage incident thereto. Private carriers are exempt from commission rules in this chapter to the extent that they transport radioactive materials. Common and contract carriers, freight forwarders, warehousemen, and private carriers are subject to applicable rules of the United States Department of Transportation, the United States Postal Service or, for intrastate transportation, the Texas Department of Health. Packaging and transportation of radioactive material are also subject to applicable rules of the United States Nuclear Regulatory Commission (10 CFR Part 71, Packaging and Transportation of Radioactive Material).

(c) United States Department of Energy contractors and United States Nuclear Regulatory Commission contractors. Any United States Department of Energy contractor or subcontractor or any United States Nuclear Regulatory Commission contractor or subcontractor of the following categories operating within the State is exempt from the rules in this chapter, with the exception of any applicable fee set forth in Subchapter B of Chapter 336 of this title (relating to Radioactive Substance Fees), to the extent that such contractor or subcontractor under his contract receives, possesses, uses, transfers, or acquires sources of radiation:

(1) prime contractors performing work for the United States Department of Energy at a United States government-owned or controlled site, including the transportation of radioactive material to or from the site and the performance of contract services during temporary interruptions of transportation;

(2) prime contractors of the United States Department of Energy performing research in or development, manufacture, storage, testing, or transportation of atomic weapons or components thereof;

(3) prime contractors of the United States Department of Energy using or operating nuclear reactors or other nuclear devices in a United States government-owned vehicle or vessel; and

(4) any other prime contractor or subcontractor of the United States Department of Energy or the United States Nuclear Regulatory Commission when the State and the United States Nuclear Regulatory Commission jointly determine that:

(A) the exemption of the prime contractor or subcontractor is authorized by law; and

(B) under the terms of the contract or subcontract, there is adequate assurance that the work thereunder can be accomplished without undue risk to the public health and safety or the environment.

Adopted May 14, 1997 Effective June 5, 1997

§336.6. Additional Requirements.

The commission may, by rule, order, or condition of license, impose upon any licensee such requirements in addition to those established in the rules in this chapter as it deems appropriate or necessary under the Texas Radiation Control Act to minimize danger to public health and safety or property or the environment.

Adopted May 14, 1997 Effective June 5, 1997

§336.11. Appendix A. Memorandum of Understanding Between the Texas Department of Health and the Texas Natural Resource Conservation Commission Regarding Radiation Control Functions.

(a) Purpose. The purpose of this Memorandum of Understanding (MOU) is to implement and coordinate the responsibilities and define the respective duties of the agencies in the regulation of sources of radiation in accordance with Texas Health and Safety Code (code), §401.414 and §402.1512, to provide a consistent approach to avoid duplication, and to delineate areas of separate jurisdiction.

(b) Jurisdiction.

(1) In accordance with the code, §401.412, the Texas Natural Resource Conservation Commission (TNRCC) has primary jurisdiction to regulate and issue licenses for the disposal of radioactive substances, except for naturally occurring radioactive material (NORM) originating from oil and gas production and exploration activities, defined as "oil and gas NORM waste" in the code, §401.003(27). For purposes of this MOU, disposal means isolation or removal of radioactive substances from mankind's environment without intent to retrieve those radioactive substances later. The term does not include emissions and discharges in accordance with 25 TAC §289.202 (relating to Standards for Protection Against Radiation) of the Texas Department of Health (TDH). "Radioactive substance" includes byproduct material, radioactive material, radioactive waste, source material, sources of radiation, and special nuclear material as are defined by the code, §401.003. In accordance with the code, §401.412, the TNRCC also has primary jurisdiction to

regulate and issue licenses for source material recovery and processing, including the disposal of byproduct material, as defined in the code, §401.003(3)(B).

(2) The TDH has jurisdiction to regulate and license the possession, receipt, use, handling, transfer, transport, and storage of all radioactive material, excluding the recovery and processing of source material, processing of byproduct material as defined in the code, §401.003(3)(B), and the disposal of radioactive substances. The TDH has sole jurisdiction to regulate and register or license the use or service of electronic products as defined in the code, §401.003(9). The code, §401.106, gives the TDH the authority, through rulemaking by the Texas Board of Health, to exempt a source of radiation or a kind of use or user from licensing or registration requirements.

(3) The receipt, storage, and/or processing of radioactive substances received by a TNRCC licensee at a radioactive substance disposal facility for the explicit purpose of disposal at that facility shall be regulated by the TNRCC. All other uses of radioactive material (e.g., well logging, industrial radiography, gauging devices, etc.) at a TNRCC-licensed radioactive substance disposal facility shall be regulated by the TDH.

(4) Processing of radioactive substances at a TNRCC-licensed radioactive substance disposal facility by persons other than the TNRCC licensee shall be authorized only by the TDH under a license or under reciprocal recognition of an out-of-state license and shall be in accordance with the jurisdiction of the TDH.

(5) The receipt, storage, and processing of radioactive material at TDH-licensed facilities whose primary activity is not disposal of radioactive substances but which are also licensed by the TNRCC for disposal of radioactive substances shall be regulated by the TDH.

(c) Relationship with the United States Nuclear Regulatory Commission (NRC) and the Texas Radiation Advisory Board (TRAB) regarding rulemaking. The TNRCC and the TDH agree to work together to ensure that complete regulation is maintained for sources, uses, and users of radiation. As appropriate, the TDH and the TNRCC agree to coordinate rulemaking activities between the two agencies and the TRAB to ensure consistency of regulation. Each agency agrees to coordinate rulemaking activities which pertain to the requirements of the Agreement between the State of Texas and the NRC, as amended, and to ensure the compatibility of rules and guidelines with federal regulatory programs. Each agency agrees to coordinate on providing information on any proposed legislation relating to the regulation of radioactive substances.

(d) Emergency preparedness.

(1) The State of Texas is required by federal laws and regulations to have trained personnel always available for emergency response training, drills, exercises, and actual emergency response at fixed nuclear facilities. The code, §401.066, requires the TDH to implement these activities.

(2) The TDH and the TNRCC will coordinate personnel availability for emergency planning and response activities. Each agency is authorized to collect an annual fee from the operators of fixed nuclear facilities in the state for expenses arising from emergency response activities, including training.

(3) The TDH will inform the TNRCC in a timely manner of all required exercises, drills and training. The TNRCC will ensure that all technical personnel who work in the radiation program attend the emergency response training coordinated by the TDH. The TNRCC shall notify the TDH of changes in the employment status of all the appropriate radiation personnel. In the event of an emergency, the appropriate TDH and TNRCC radiation staff will be available for emergency response under the direction of the TDH staff and in accordance with Annex D of the State of Texas Emergency Management Plan.

(e) Management of radioactive wastewaters.

(1) The TNRCC is the state agency having the jurisdiction in accordance with the Texas Water Code, Chapter 26, for the discharge of any waste or wastewaters, including radioactive wastewaters, into or adjacent to waters in the state, except for those wastes regulated by the Railroad Commission of Texas. No discharge is allowed unless authorized by the TNRCC or by another state agency having jurisdiction over the activity. The TNRCC has responsibility for issuance of permits and for enforcement of the terms and conditions of permits, rules, and/or orders which concern the treatment and discharge of radioactive wastewaters.

(2) The TNRCC shall consult with the TDH with regard to regulation and management of radioactive wastewaters and may not adopt any rules or engage in any management activities that are in conflict with state or federal laws and rules relating to regulation of radioactive wastewaters. The TNRCC shall notify the TDH, Bureau of Radiation Control, when an application is received for a treatment and/or disposal permit for radioactive wastewaters. The TNRCC shall provide the TDH with a copy of the wastewater treatment and/or disposal permit application during the technical review. The TDH shall provide the TNRCC with the appropriate permit limits for the radioactive component of wastewater discharges and cumulative limits for disposal sites, if land application is contemplated by the application. No separate license from the TDH shall be required to authorize that discharge. The TDH may provide the TNRCC with other suggestions related to management of radioactive wastewaters.

(3) TDH licenses regarding facilities requiring a wastewater permit shall contain a provision that licensees must comply with the TNRCC permit requirements. TNRCC permits governing facilities requiring a radioactive materials license from the TDH shall contain a provision that permittees must comply with TDH license requirements.

(f) Financial security instruments. The TNRCC will review and evaluate the financial security instruments for radioactive substance disposal sites and uranium recovery facilities in accordance with its jurisdiction. The TDH will review and evaluate the financial security instruments for licenses in accordance with its jurisdiction. The radiation and perpetual care fund will be available for use by both agencies for receipt of financial security as appropriate.

(g) Low-level waste health surveillance survey. In accordance with code, §402.058, the TDH and the TNRCC agree to coordinate efforts, in conjunction with the Texas Low-Level Radioactive Waste Disposal Authority and the local public health officials, in the development of a health surveillance survey for the population in the vicinity of a radioactive waste disposal site.

(h) Dosimetry program and meter calibration. The TDH may provide personnel monitoring services, thermoluminescent dosimeters for environmental monitoring, and radiation survey instrument calibration for

TNRCC personnel in the radiation program in accordance with an approved contract for those services. The TDH and the TNRCC may renegotiate this contract each biennium.

(i) Mutual assistance. Each agency may request from the other agency short-term assistance of personnel or resources when there is need for such assistance, such as for performing close-out surveys, training, environmental monitoring, technical reviews, and technical support at contested hearings. Each agency will provide the requested assistance to the extent possible without disrupting its own required activities.

(j) Maintenance of files on known disposal sites and contaminated facilities. The TDH agrees to assist the TNRCC in maintaining files on known locations in the State at which radioactive material has been disposed of and at which soil and facilities are contaminated and in maintaining information on inspection reports related to these locations. Each agency agrees to maintain files of sites and facilities regulated in accordance with its respective jurisdictions.

(k) Relationship with other memoranda of understanding. This MOU supersedes those found at 25 TAC §289.123 (relating to Licensing of Uranium Recovery Facilities), 25 TAC §289.125 (relating to Licensing Requirements for Near-Surface Land Disposal of Radioactive Waste), and §305.521(2) of this title (relating to Adoption of Memoranda of Understanding by Reference).

(l) Radioactive substances exempted or released for unrestricted use. Once a source of radiation is exempted from regulation by the Texas Board of Health in accordance with code §401.106 or meets release criteria for unrestricted use in accordance with the provisions of the Texas Regulations for Control of Radiation, its disposal is not subject to further regulation as a radioactive substance by the TNRCC.

(m) Miscellaneous.

(1) The TNRCC and the TDH agree to revise their respective rules and procedures as needed to implement this MOU.

(2) Agency representatives shall meet as needed to discuss possible changes in this MOU and to encourage increased communication between the agencies.

(3) Nothing in this MOU shall be construed to reduce the statutory jurisdiction of either agency.

(4) If any provision of this MOU is held to be invalid, the remaining provisions shall not be affected thereby.

(n) Effective date. This amended MOU will take effect when signed by both agencies and remain in effect until rescinded by formal action of either agency.

Adopted May 14, 1997 Effective June 5, 1997

§336.12. Appendix B. Memorandum of Understanding between Railroad Commission of Texas, Texas Department of Health, and Texas Natural Resource Conservation Commission

Regarding Uranium Surface Mining, Uranium Ore Milling, and Tailings Ponds and Impoundments.

Now therefore, the Railroad Commission of Texas (RCT), the Texas Department of Health (TDH), and the Texas Natural Resource Conservation Commission (TNRCC) hereby agree to the following:

(1) Uranium surface mining.

(A) The RCT shall have responsibility for permitting and enforcement activities, including reclamation, for all uranium surface mining facilities. The regulation of uranium exploration and surface mining activities by the RCT shall cover non-radiological aspects of all exploration activity and open pit mining and shall be enforced through its adopted rules. The RCT shall ensure that the proposed activities meet the RCT standards; determine the adequacy of pre-operational information provided by the applicant; assess the degree of environmental impact that would result from the proposed activity; issue permits and permit revisions and renewals; enforce all the RCT permit conditions and standards, including the maintenance of financial assurance for activities for which the RCT is directly responsible.

(B) The RCT and the TDH shall be jointly responsible, from both radiological and non-radiological considerations, for regulation of releases and disposal of mine effluents, mine drainages, and other wastes resulting from uranium surface mining. Regulation relating to all surface discharges of effluents or other liquid or solid streams from the mining areas shall be determined in cooperation with TNRCC. The RCT shall have the primary responsibility for regulation of reclamation and revegetation activities and for subsequent release of the land affected by mining. The TDH will perform confirmatory radiological surveys of the reclaimed areas and advise the RCT of its findings.

(2) Uranium ore milling.

(A) The TNRCC shall have responsibility for licensing and enforcement activities for the ore milling process plant facilities starting from the raw ore receipt and storage to the packing for transportation of the uranium oxide concentrate. The TNRCC shall ensure the proposed activities meet TNRCC standards; determine the adequacy of radiological and non-radiological pre-operational information provided, and assess the impact of proposed activities on public health and safety and the environment; review the applicant's design, construction, operation, monitoring, recordkeeping, reporting, maintenance, closure, and post-closure activities, including decommissioning and reclamation, to ensure that they meet TNRCC standards; address environmental impacts resulting from the proposed activities in a TNRCC-prepared environmental assessment; and issue licenses and enforce all TNRCC license conditions and standards, including determination and maintenance of financial assurance for activities for which the TNRCC is directly responsible.

(B) The TNRCC shall review decommissioning and reclamation plans for ore milling and processing facilities. The TNRCC will also approve releases and disposal of all effluents and wastes on the land surface.

(3) Tailings ponds and impoundments.

(A) The TNRCC shall have responsibility for licensing and enforcement activities for uranium mill tailings ponds and other impoundments. The TNRCC and RCT shall each share with the other agency submitted technical information and keep the other agency informed of its key decisions to assure that the state's best technical expertise is employed for oversight. This cooperation shall cover activities such as ponds and impoundments (to assure that they meet with applicable construction or closure standards); pre-operational site information; applicant's proposed design, construction, operation, monitoring, recordkeeping, reporting, maintenance, decommissioning, reclamation, and post-closure activities; environmental monitoring data; and financial assurance requirements.

(B) The TNRCC, in accordance with its authority, shall have exclusive responsibility for post-reclamation long-term surveillance, including environmental monitoring of tailings ponds and other impoundments from the effective date of this MOU.

(C) The TNRCC shall be responsible for the evaluation and regulation of radiological and non-radiological impacts of the operation of tailings ponds and other impoundments that may lead to tailings accumulation and discharges or releases to the surface or subsurface; address the environmental impacts resulting from the operation; issue licenses and enforce all TNRCC license conditions and standards, including determination and maintenance of financial assurance under the Radiation and Perpetual Care Fund; coordinate the transfer of reclaimed land to the State of Texas and assume responsibility for long-term surveillance at the site, or coordinate transfer to the federal government. The TNRCC activities, as provided herein, shall be carried out under the authority and conditions granted by its own rules and the United States Nuclear Regulatory Commission and the applicable standards set forth by the United States Environmental Protection Agency. In the foregoing activities, the TNRCC shall share with the RCT all technical and financial assurance information and keep the RCT informed of all significant decision recommendations prior to their being made to assure that the RCT's permitting requirements are met.

(4) The RCT shall forward one copy of each application for uranium surface mining to the TDH and the TNRCC. Information bearing on the technical merit of an application, or other substantive issues received by any agency, will be forwarded to the other agencies.

(5) The RCT and the TNRCC may coordinate inspections, sampling programs, and enforcement actions. TNRCC will be solely responsible for conducting inspections, sampling programs, and enforcement actions at mill sites, tailings ponds and impoundments.

(6) In the event that a public hearing is requested or is required, the hearing shall be called and conducted by the agency having jurisdiction over the issues that have compelled the public hearing and may be attended by legal and technical staff of the other agencies.

(7) The technical staffs of the RCT and the TNRCC will cooperate so that their highest level of technical expertise will be available to assess environmental impacts, attend public hearings, and enforce the respective agency's mandates.

(8) The RCT, TDH, and the TNRCC agree to review and revise their respective rules and procedures as needed to implement this Memorandum of Understanding.

(9) Agency representatives shall meet, as needed, but no less than annually, to discuss possible changes in this Memorandum of Understanding and to encourage increased communications between the agencies.

(10) Nothing in this Memorandum of Understanding shall be construed to reduce the statutory jurisdiction of these agencies.

(11) If any provision of this Memorandum of Understanding is held to be invalid, the remaining provisions shall not be affected thereby.

This Memorandum of Understanding will take effect when signed by all three agencies and remain in effect until rescinded by formal action of any one of these agencies.

Signed this 3rd day of November, 1995.

Adopted May 14, 1997 Effective June 5, 1997